

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) An apparatus for forming a single face corrugated paperboard web from a liner web and a corrugated medium web, the medium web being corrugated on a heated fluted bonding roll and having a starch based adhesive glue lines applied to the flute tips while said medium web remains on said bonding roll, a generator roll
5 for bringing the liner web into initial tangent contact with the glued lines on the flute tips of the corrugated medium on the bonding roll without nipping contact to form a composite single face web on said bonding roll, the improvement comprising:

a contact roll having an axis of rotation parallel to the rotational axis of the bonding roll and mounted closely spaced from and immediately downstream of the generator
10 roll to lightly press the single face web against the bonding roll with a radial force distributed uniformly across the width of the single face web to spread the adhesive glue lines between the flute tips and the liner before gelatinization of the adhesive.

2. (original) The apparatus as set forth in claim 1 including a contact roll end support mechanism operative to vary the position of the contact roll radially with respect to the bonding roll.

3. (original) The apparatus as set forth in claim 2 wherein the contact roll comprises:

a center dead shaft including stub shaft ends connected to said end support mechanism; and,

5 an outer shell rotatably supported on said dead shaft by a plurality of axially spaced bearings.

4. (original) The apparatus as set forth in claim 3 wherein said roll outer shell comprises a steel inner liner and a rubber outer cover.

5. (original) The apparatus as set forth in claim 3 wherein said support mechanism comprises:

an eccentric coupling fixed to each stub shaft end, each coupling providing connection to a pivot shaft journaled for limited rotation on a pivot axis parallel to the axis of
5 the dead shaft; and,

an actuator connected to each pivot shaft and operative to provide the limited rotation thereto to vary the position of the contact roll.

6. (original) The apparatus as set forth in claim 5 wherein each actuator comprises a pneumatic cylinder having a cylinder rod end connected eccentrically to one of the pivot shafts.

7. (original) The apparatus as set forth in claim 3 wherein the dead shaft includes a larger diameter axial center portion joining reduced diameter opposite end portions; and,

5 the outer shell having an axial center portion having a greater wall thickness joining opposite shell end portions of reduced wall thickness.

8. (original) The apparatus as set forth in claim 7 wherein the axial center portion of said dead shaft and said outer shell are approximately equal in axial length.

9. (original) The apparatus as set forth in claim 8 wherein the outer shell is rotatably supported by a pair of bearings positioned adjacent the ends of the axial center portion of the outer shell and the dead shaft.

10. (currently amended) In a single facer apparatus for forming a single face corrugated paperboard web from a liner web and a corrugated medium web, said apparatus including a heated fluted bonding roll on which the medium web is corrugated, a glue applicator that applies a starch based adhesive to the flute tips of the corrugated medium web
5 while the medium web is on the bonding roll, and a generator roll that brings the liner web into initial tangent contact with the glued flute tips of the corrugated medium web on the bonding roll without nipping contact to form the single face web, a method for enhancing the glue bond between the medium web and the liner web comprising the steps of:

10 (1) positioning a rotatable contact roll on a rotational axis parallel to the axis of rotation of the bonding roll closely adjacent and immediately downstream of the generator roll;

(2) mounting said contact roll for movement radially with respect to the bonding roll into contact with the single face web on the bonding roll; and,

15 (3) loading said contact roll against the single face web with a light force uniformly distributed across the width of said web sufficient to spread the adhesive between the flute tips and the liner before gelatinization of the adhesive.

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Reply to Office Action dated November 8, 2004

11. (original) The method as set forth in claim 10 wherein said loading provides a force of about 5 pounds per lineal inch of web width.

12. (cancelled)

13. (original) The method as set forth in claim 10 including the step of providing said contact roll with a coating of a rubber-like material.